

Notice of Allowability

Application No.

10/768,192

Examiner

Thomas H. Parsons

Applicant(s)

YANAGAWA ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Amendment filed 22 June 2006.
2. ☒ The allowed claim(s) is/are 5,6 and 9-20.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Response to Amendment

This is in response to the Amendment filed 22 June 2006.

(Previous) DETAILED ACTION

Drawings

1. The objection to Figures 4 and 5 as failing to provide a legend such as –Prior Art— because only that which is old is illustrated has been **withdrawn** in view of Applicants' Amendment.
2. The objection to Figures 4 and 5 as failing to comply with 37 CFR 1.84(p)(5) because they include reference character(s) not mentioned in the description has been **withdrawn** in view of Applicants' Amendment.

Specification

3. The objection to the disclosure because of minor informalities has been **withdrawn** in view of Applicants' Amendment.

Claim Rejections - 35 USC § 112

4. The rejections of claims 1-8 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention have been **withdrawn** in view of Applicants' Amendment.

Claim Rejections - 35 USC § 102

5. The rejections of claims 1-4 and 7-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Kaito et al. (2003/0224242) have been **withdrawn** in view of Applicants' Amendment.

Claim Rejections - 35 USC § 102

6. The rejections of Claims 1-4 and 7-8 under 35 U.S.C. 102(b) as being anticipated by Spillman et al. (5,631,102) have been **withdrawn** in view of Applicants' Amendment.

Allowable Subject Matter

7. Claims 5-6 and 9-14 are allowable over the prior art references of record.

REASONS FOR ALLOWANCE

8. The following is an examiner's statement of reasons for allowance:

The present invention features a secondary battery having an electrode sheet with an active material layer residing on one surface thereof over a broader range than the width of an electrode and a narrower range than the width of the electrode sheet. An insulating sheet is adhered to a part of the electrode sheet where a short-circuit may possibly occur, such part being selected from a front edge and a rear edge of the active material layer of the electrode plate. The invention is characterized in that the electrode sheet and the insulating member are simultaneously cut to form an electrode plate having a predetermined shape that the width of the electrode plate, a width of an active material layer on the electrode plate and a length (width) of

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the insulating sheet are substantially the same, and/or in that an insulating sheet is adhered with a low-temperature thermoplastic adhesive plate -- a material that has as little adhesion as possible at room temperature of 18 to 20 degrees Celsius but increases adhesion at a temperature of 60 to 120 degree Celsius.

In contrast, Kaito et al. in Figure 1 disclose an electrode plate for a secondary battery, comprising an electrode sheet (current collector) with an active material layer formed on at least one surface thereof; and an insulating sheet adhering to a portion of the electrode sheet where a short-circuit may possible occur wherein the portion is an exposed portion of the current collector located between an edge of the active material layer and an edge of the current collector (i.e. the exposed part of the current collector not covered with active material is coated with insulating material). See paragraphs [0046]-[0055].

Further, Kaito et al. in Figures 8-10 discloses an electrode sheet having active material parts and insulating parts in a striped pattern wherein the electrode sheet was slit (cut) to produce an electrode plate. Kaito et al. disclose that the width of the electrode plate is 55mm, the width of the active material is 50mm and the length (width) of the insulating sheet is 54mm. The electrode sheet and insulating sheet of Kaito et al. do not form an electrode plate having a predetermined shape of which a width of the electrode plate, a width of the active material on the electrode plate, and a length (width) of the insulating sheet are substantially the same. See paragraphs [0097]-[0104].

As an insulating sheet material, Kaito et al. only disclose a tape comprising a base material such as polypropylene and an acrylic resin type adhesive. Kaito does not disclose a low-temperature thermoplastic paste material that increases in adhesion at a temperature of 60 to 120

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degree Celsius, by which the desirable effects of the present invention are realized. Therefore, the electrode plates and secondary batteries of the present invention are not anticipated from Kaito et al.

As an insulating sheet material, Spillman et al. disclose only a woven fiber and non-woven fiber base material and it is silent about paste materials nor does it disclose means to adhere them. Spillman et al. disclose covering a leading edge of an electrode plate by a separator insert. However, since the separator insert corresponding to electrode sheet and the insulator sheet are not cut simultaneously, the width of the sheet material (a current collector foil), width of an active material layer and width (length) of the insulating sheet of the electrode plate are not the same width and this leads to protruding from the electrode plate as can be seen on Fig. 1 of Spillman et al.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas H. Parsons whose telephone number is (571) 272-1290. The examiner can normally be reached on M-F (7:00-4:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER

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